

WHAT IS CLAIMED IS:

1. An accelerated test method for evaluating, under accelerated conditions (a temperature T_2 and a voltage V_2), an endurance characteristic of a ferroelectric memory device comprising a capacitor element having a ferroelectric film under actual operating
5 conditions (a temperature T_1 and a voltage V_1), the method comprising the step of:

deriving an acceleration factor (K) required to evaluate the endurance characteristic by using an expression:

$$\log K = A(1/V_1 - 1/V_2) + B(1/V_1 T_1 - 1/V_2 T_2)$$

(where each of A and B is a constant).

- 10 2. The method of claim 1, further comprising the step of:

determining the constants A and B by measuring polarization-inversion-voltage dependence of a remanence of the ferroelectric film which varies with increase of the number of occurrences of polarization inversion in the ferroelectric film at each of a plurality of temperatures.

- 15 3. The method of claim 1, further comprising the step of:

measuring a remanence of the ferroelectric film which varies with increase of the number of occurrences of polarization inversion in the ferroelectric film at each of a plurality of polarization inversion voltages (V) at a specified temperature (T), determining the number (Lc) of occurrences of polarization inversion when the determined remanence
20 reaches a specified decrease rate relative to an initial value thereof, performing, a plurality of times, a sequence of processes for determining a constant α from the plurality of polarization inversion voltages (V), the numbers (Lc) of occurrences of polarization inversion, and an expression: $\log Lc = C + \alpha/V$ (where each of C and α is a constant), while varying the specified temperature (T), to determine a constant (α) at each of the specified
25 temperatures (T), and determining the constants A and B from the constant (α) determined

at each of the specified temperatures (T) and an expression: $\alpha = A + B/T$.